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## The role of experts in social media - are the tertiary educated engaged?

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### Abstract

With new social media technologies arising daily, this paper reports on a pilot user survey that studies how tertiary educated users are engaging with social media. The results indicate sporadic use of social media by the tertiary educated users studied; they are generally aware of the key social media sites and facilities, but are not actively utilizing these services. The reasons for, and the implications of a lack of tertiary educated users in the egalitarian and participatory environments intrinsic to social media are discussed. Further, the paper suggests potential technological barriers that might be at the root of such a lack of engagement amongst tertiary educated users.

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# The Role of Experts in Social Media - Are the Tertiary Educated Engaged?

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## Abstract

*With new social media technologies arising daily, this paper reports on a pilot user survey that studies how tertiary educated users are engaging with social media. The results indicate sporadic use of social media by the tertiary educated users studied; they are generally aware of the key social media sites and facilities, but are not actively utilizing these services. The reasons for, and the implications of a lack of tertiary educated users in the egalitarian and participatory environments intrinsic to social media are discussed. Further, the paper suggests potential technological barriers that might be at the root of such a lack of engagement amongst tertiary educated users.*

## 1. Introduction

Social media technologies (such as MySpace<sup>1</sup>, YouTube<sup>2</sup>, Twitter<sup>3</sup>, etc. – see Table 1) have exploded in popularity in recent times. Further, with a multitude of social media sites available, users are increasingly sharing multimedia through social networking sites such as Facebook<sup>4</sup>, MySpace and Orkut<sup>5</sup>. The largest annual global analysis of social media conducted by Universal McCann reported that 82.8% of all users surveyed in 2009 watch online video, which is an increase from 32% as recorded by the first Universal McCann social media survey conducted in 2006 [1]. How people are accessing social networks is also changing: over 17% of users surveyed in 2009 accessed social media on mobile devices [1], where the traditional PC or laptop is now used in conjunction with mobile devices such as smart phones. Even in the localised Australian market, a survey by comScore in June 2009 indicated that social media usage in Australia had grown 29% compared to 2008 [2]: over 70% of Australian Internet users (approx. 9 million users) visited a social networking site in June 2009 alone, where Facebook attracted almost 50% of the total social networking traffic in Australia (approx. 6 million visitors). Today, Facebook is the 2<sup>nd</sup> most visited website in Australia (the top being

Google Australia), whilst YouTube comes in 4<sup>th</sup>, Wikipedia at 8<sup>th</sup> and Blogger at 10<sup>th</sup>; in fact, 8 of the top 20 most visited websites in Australia are social media sites [3].

Social networks have become a dominant technology on the Internet changing user communication as they allow dynamic interaction and sharing of multimedia (e.g., photos, videos, music etc.) with friends, family and other users with similar preferences and interests. In a bid to understand how users engage with social media, user surveys often document the types of user activities (e.g., blogging, social networking, etc.) [1]. However, social media user surveys often aim to represent average usage trends across the general public and hence results are not specific to particular demographics and applications. This paper considers how social media is utilized amongst the tertiary educated (i.e., users who have some form of higher education), and also investigates the roles of educated experts within social media environments.

Much research has been conducted into the application of social media into tertiary education [4][5][6][7][8]. Current learning theorists discuss the educator-centered classroom and curriculum as becoming obsolete, where students are now considered as both producers and consumers (i.e., ‘prosumers’) of learning content; such shifts in pedagogical views thus match well with the egalitarian, participatory and user-centered paradigms fundamental to social media [4]. Having found Learning Management Systems (LMS) to be not necessarily effective, rather than replicating the classroom/lecture teaching models online, Herrington [5] discusses the need for situated learning and sustained authentic tasks in tertiary learning (i.e., learning activities with real-world relevance) using E-Learning environments. McLoughlin and Lee [6] coin the term Pedagogy 2.0, describing a framework where the knowledge sharing, communication and collaboration inherent to social network sites such as blogs, wikis, and media-sharing communities promote learner-centered activity and engagement with peers, teachers, experts and the general community.

A UK study into how existing Web 2.0 technologies are being and can be used in tertiary education is presented in [7], where Tiropanis et al. suggest that linked data fields and formats across higher education institu-

Table 1. Social media sites

Social media site	URL
<sup>1</sup> MySpace	http://www.myspace.com
<sup>2</sup> Youtube	http://www.youtube.com
<sup>3</sup> Twitter	http://twitter.com
<sup>4</sup> Facebook	http://www.facebook.com
<sup>5</sup> Orkut	http://www.orkut.com
<sup>6</sup> Friendster	http://www.friendster.com
<sup>7</sup> LinkedIn	http://www.linkedin.com
<sup>8</sup> Last.fm	http://www.last.fm
<sup>9</sup> Flickr	http://www.flickr.com
<sup>10</sup> Bebo	http://www.bebo.com
<sup>11</sup> Couchsurfing	http://www.couchsurfing.org
<sup>12</sup> WikiWikiWeb	http://c2.com/cgi/wiki
<sup>13</sup> Wikipedia	http://wikipedia.org
<sup>14</sup> Wiktionary	http://wiktionary.org
<sup>15</sup> Delicious	http://delicious.com
<sup>16</sup> Digg	http://digg.com
<sup>17</sup> Yahoo! Answers	http://answers.yahoo.com
<sup>18</sup> Second Life	http://secondlife.com
<sup>19</sup> Moodle	http://moodle.org

tions for interoperable semantic data is required for widespread adoption of Web 2.0 tools for education. A more general treatise into how Web 2.0 tools can be applied to tertiary education environments by ‘campus professionals’ is discussed by Berg et al. [8]. The pedagogical gains from utilizing social media in tertiary teaching environments are thus well discussed; however, the challenges lie in implementing paradigms such as Pedagogy 2.0 [6] and ensuring uptake by institutions, educators, as well as students. Whilst there is much discussion regarding the use of social media in education, this paper presents the preliminary results of a pilot survey study that focuses on the general involvement of the tertiary educated in social media (in educational capacities and otherwise), the technological barriers that may be inhibiting participation and thus the potential for new social media technologies.

## 2. The Evolution of Social Media

Social networking is broadly defined as connecting those people who have ‘something’ in common, be it existing friends or complete strangers with shared interests e.g., political views, activities, etc. [9]. Social networking sites allow users to create an online profile that is effectively a portal to interaction with a list of self-approved friends or social groups via various communication tools.

Such tools include comments, messages (private or public), tagging and/or sharing photos/videos/links, collaboration (e.g., wikis) and playing interactive games.

Although social networking sites started to appear in the late 90’s (e.g., sixDegrees.com), the technologies did not gain critical mass until sites such as Friendster<sup>6</sup>, MySpace, LinkedIn<sup>7</sup>, Orkut, Last.fm<sup>8</sup>, Flickr<sup>9</sup>, Bebo<sup>10</sup>, Couchsurfing<sup>11</sup>, YouTube and Facebook came to the fore in the early to mid 2000s. However, with more sites constantly appearing, social networking bridges both emerging and evolving technologies.

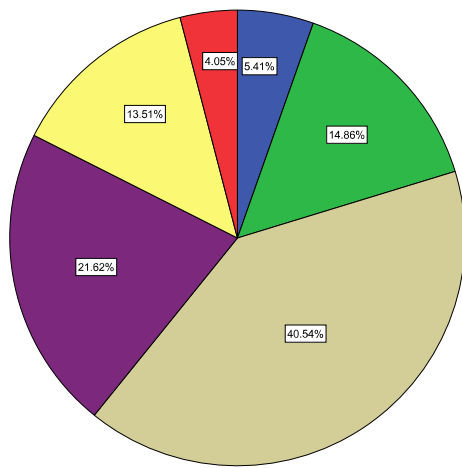
Social media was popularised by sites such as YouTube and Flickr in the mid 2000s; these sites allowed users to contribute User-Generated Content (UGC) to the Internet. Even with the limited social tools available at the time (such as comments and tags on videos/photos) UGC became popular, however, it was not until the recent release of Application Programming Interfaces (APIs) and embedded media players that social media’s popularity exploded. This was primarily a result of APIs making it very simple to share multimedia within social networking portals. Interestingly, YouTube has featured simple social groupings (i.e., a list of friends) for some time, however, most people prefer to use it as media distribution repository and share that media via social networking sites (such as Facebook) [1][10].

First introduced in 1995 (as WikiWikiWeb<sup>12</sup>), collaborative editing technologies such as wikis have also contributed to the user-driven content of social media. However, with the explosive popularity of collaboratively edited reference sources (e.g., Wikipedia<sup>13</sup> and Wiktionary<sup>14</sup>), the key issue of reliability and accuracy of the information contributed by users [11] has emerged. To address this issue, efforts in the last few years have aimed at exclusively involving experts and including processes of peer-review (e.g., Citizendium, Nupedia); these, however, have mostly failed [12]. Further, and analogous to these issues in collaborative editing, is the problem of finding high quality content among the growing repository of UGC on multimedia sharing sites [13] e.g., YouTube and Flickr.

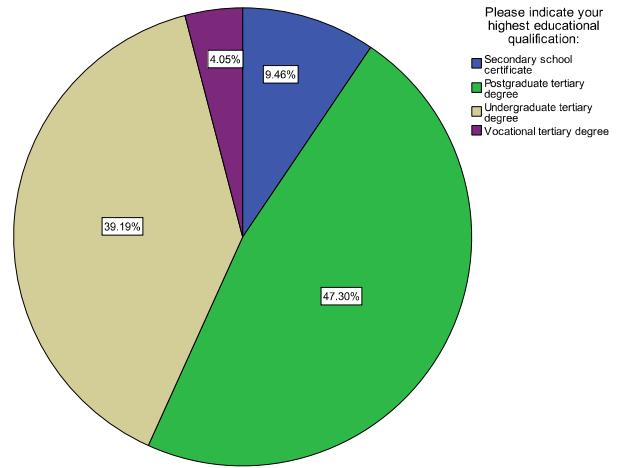
Given these issues of ‘quality control’ in the openly collaborative environments of social media, the key questions posed in the paper are: are educated users using social media technologies?; how and why are they using social media?; and what are the potential (technological) barriers to experts actively contributing to social media (in their current form)?

## 3. Pilot Survey Specifics

The aims of the pilot user survey reported in this paper were to understand how widespread social media use is in Australia among respondents who have higher education



(a) Participants' age breakdown



(b) Participants' educational background

Fig. 1. Survey Respondent Statistics

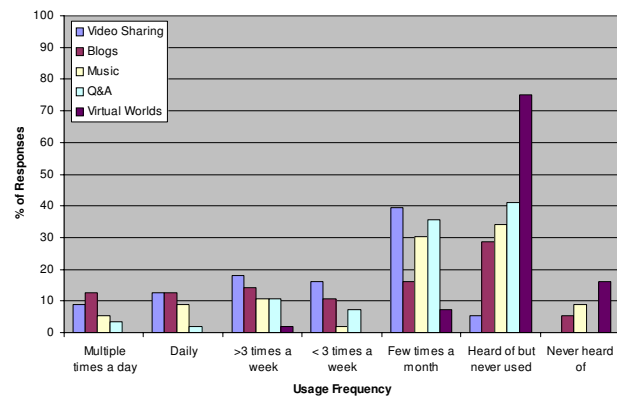
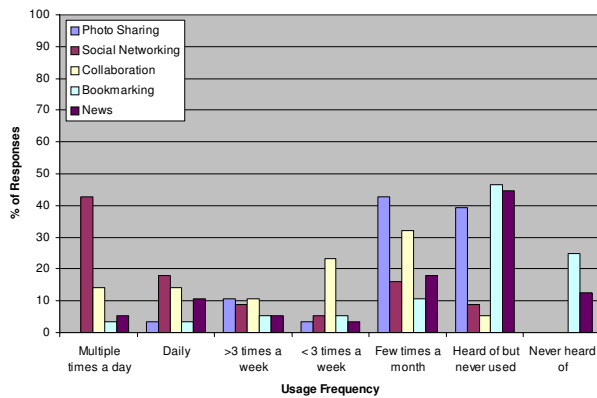


Fig. 2. Social Media Site Access

qualifications, and what tasks such users engage with on which sites. With these aims in mind, the survey structure was designed as follows<sup>1</sup>:

1. Basic user information (non-identifiable);
2. Frequency of social media site access (blogging, social networking, video sharing, photo sharing, music sharing, links sharing, collaboration, virtual worlds);
3. Type of social media activity within sites (blogging, social networking, video sharing, photo sharing, music sharing, links sharing, collaboration, virtual worlds);
4. How users are accessing social media sites (laptop/desktop/mobile); and,
5. Purposes for accessing social media (work/leisure/education).

The survey was conducted online and anonymously using the open source PHP-based survey software LimeSurvey<sup>2</sup>.

vey<sup>2</sup>; results were analysed with the statistics tools available with LimeSurvey, Microsoft Excel and SPSS. Staff and student volunteer participants were initially sought from two Universities in Australia via campus-wide mailing lists; however, participants outside the two Universities also took part as the survey was distributed among users' social networks.

#### 4. Pilot Survey Results

Of the 56 survey respondents, 32 were male and 24 female. Fig. 1 shows the basic user statistics collected from participants including the age distribution (Fig. 1a) and educational backgrounds (Fig. 1b). Due to the initial propagation of the survey amongst staff and students at two Australian universities, a large portion of users (just over 90%) hold a tertiary level qualification.

<sup>1</sup> The survey can be accessed online at <http://www.tagitami.com/limesurvey>

<sup>2</sup> <http://www.limesurvey.org>

#### 4.1. Social media site access

Fig. 2 illustrates how often the pilot survey group of tertiary educated users engages with particular social media services. Social networking tools (e.g., Facebook, MySpace, LinkedIn etc.) have the highest temporal penetration, with over 40% of users accessing the sites multiple times a day, in contrast to video and photo sharing sites (e.g., YouTube, Flickr), which the majority of users use only a few times a month. The usage also varies between the age groups surveyed: 52% of users are actively using social networks (a few times a week or more), with 70% of these users aged between 18-34 years, 6% aged between 34-44 and, interestingly, 17% of active social networkers are aged between 45-54.

In fact, Fig. 2 shows that users have heard of most of the social media technologies but not necessarily engaged with such services. Why this is the case is a pertinent question that requires further investigation. In particular, why services such as social bookmarking (e.g., Delicious<sup>15</sup>), social news (e.g., Digg<sup>16</sup>), Q&A (e.g., Yahoo! Answers<sup>17</sup>) and Virtual Worlds (e.g., Second Life<sup>18</sup>) have the least level of participation amongst this demographic.

#### 4.2. Activities within social media sites

The graphs in Fig. 3 depict the breakdown of activities on social media sites for the tertiary educated users surveyed. Consistent with previous social media usage surveys on the general public [1], the pilot sample of educated users surveyed are also largely consuming rather than contributing content. Activities that have the highest level of participation are reading blogs, viewing shared photos/videos, and activities related to social network profiles (e.g., updating/commenting on social network profile statuses). Only 12% of users admit to being active bloggers (i.e., writing a blog a few times a week or more), with 80% of these active bloggers aged between 25-44. There are, however, 26% of users who write a blog just a few times a month; therefore 38% of all respondents are blogging to some extent. Overall, Fig. 3 shows that not only are users aware of the social media sites in Fig. 2, but users are also aware of the functionality of social media technologies: only 10-20% of the surveyed users selected the 'never heard of' option for the various activities surveyed. Fig. 3 shows the least known services to be link sharing, virtual worlds, and social bookmarking (though 70% of the users who had never heard of social bookmarking were aged between 25-35 years).

#### 4.3. Social media usability

Fig. 4 illustrates how and why the surveyed users are accessing social media. Fig. 4a shows the dominance of

laptop/desktop PCs over mobile device access, but video/photo sharing and social networking activities are gaining ground on mobile devices. Fig. 4b shows why users are engaging with social media, and it is evidently for leisure e.g., over 90% of users access photo sharing and social networking purely for fun. However, almost 40% of the users surveyed use blogs for work purposes, closely followed by just over 30% for video sharing and 20% for photo sharing, social networking and microblogging. In contrast, video sharing is the social media service most utilised for educational purposes at just under 40% use, followed by blogging and photo sharing at just under 20%. Lastly, 91.38% of the users surveyed find it easy to share multimedia (e.g., music, photos, videos), which suggests that for the pilot sample the current social media technologies are easy to engage with.

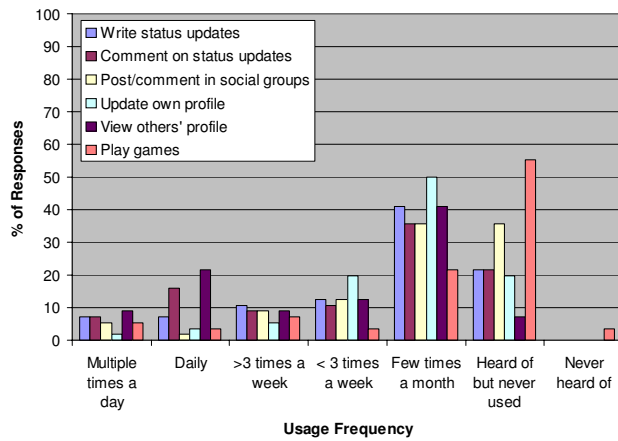
### 5. Discussion

Given the small sample size of the pilot study, in the following, Section 5.1 presents insights into how and potential reasons why tertiary educated users are using social media. Section 5.2 then outlines potential technological tools that may be able address some of the barriers to experts actively contributing to, and utilizing social media in educational and/or professional contexts. Section 5.3 discusses further questions to be included to expand the survey (to be presented to a wider audience) arising from the pilot survey results, namely investigating potential user barriers (technological or otherwise).

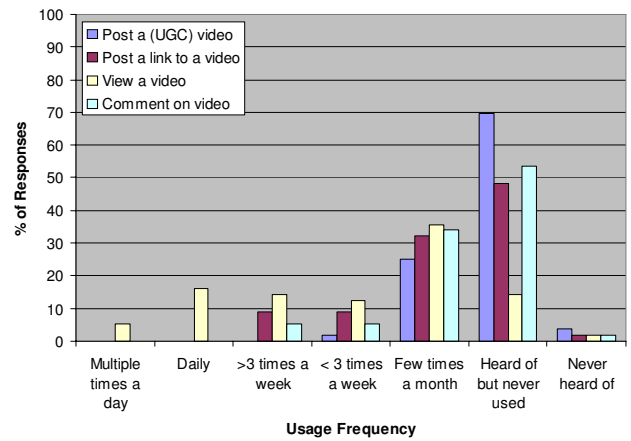
#### 5.1. Social media engagement

The social media usage trends presented in Section 4 (Figs. 2 to 4) show that the surveyed users are tentatively engaging with social media and primarily for leisure purposes. Moreover, the surveyed users who are engaging with social media are consuming rather than contributing content; for example, only 7% of the 40% of users using blogs for work purposes are actually writing blogs. Ideally, highly educated users can play a fundamental role as experts in collaborative editing and knowledge sharing environments such as Wikipedia and Yahoo! Answers; however, Fig. 3h shows the most dominant collaborative activity to be passive wiki reading.

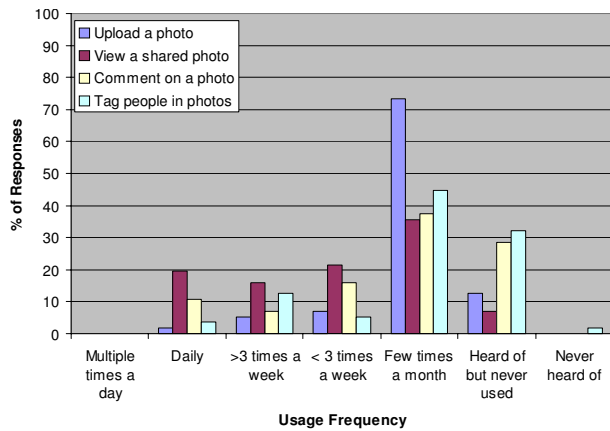
Potential reasons for this tentative engagement and contribution to collaborative content could be a lack of technological tools or awareness of available participatory technology (e.g., are users aware that they can easily edit Wikipedia?). Current social media sites may also be too time-consuming for some users to learn and actively engage with. In particular, the age bracket of 35-44 engaged least with social media, and this could be a result of familial obligations and thus potentially time-poor lifestyles.



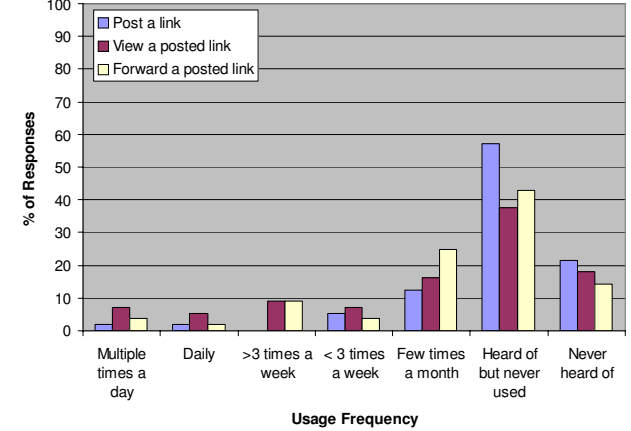
(a) Social networking



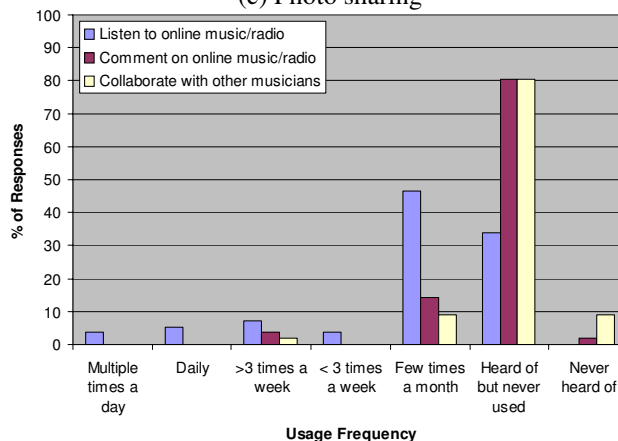
(b) Video sharing



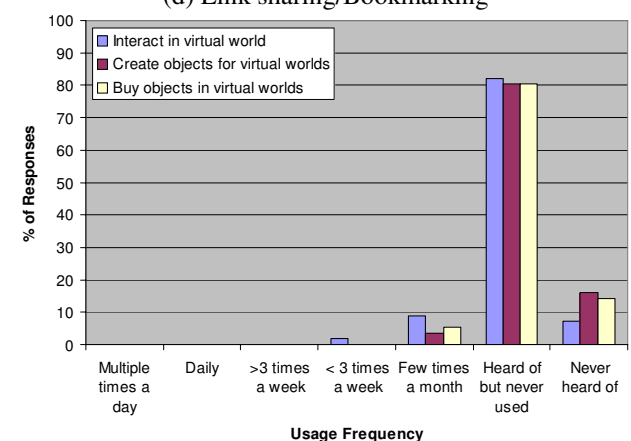
(c) Photo sharing



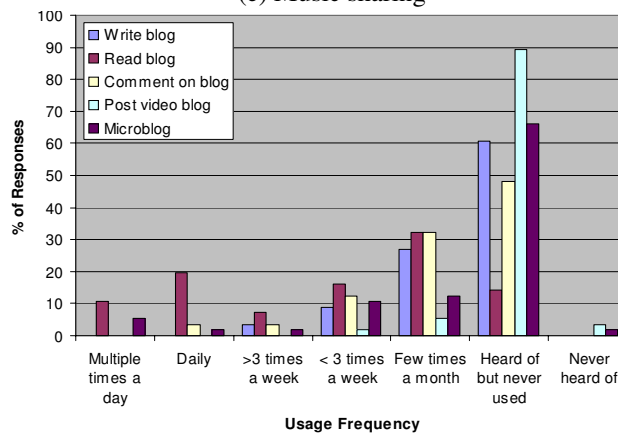
(d) Link sharing/Bookmarking



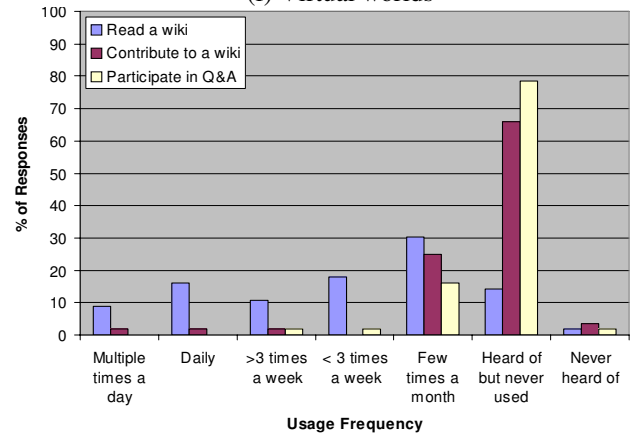
(e) Music sharing



(f) Virtual worlds

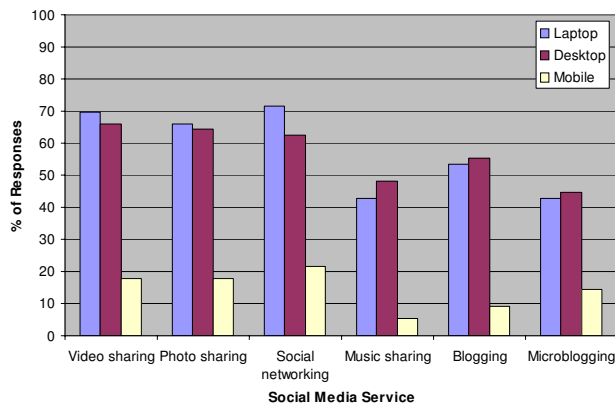


(g) Blogging

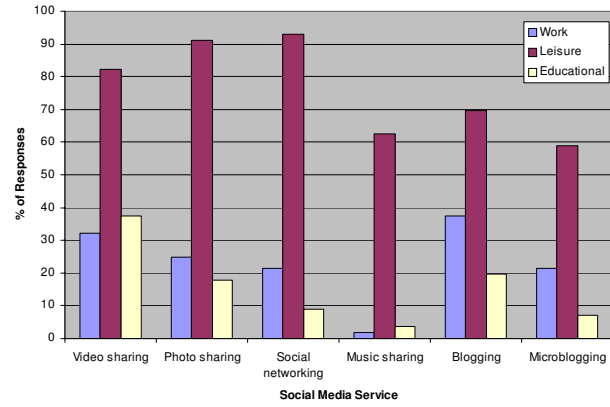


(h) Collaboration





(a) Social networking



(b) Video sharing

Fig. 4. Social Media Usability

As well as being ideally positioned to contribute quality content, tertiary educated users can also utilise social media technologies for academic teaching activities [4][5][6][7]. However, social media has largely been marketed and thus adopted as a set of technologies for leisure purposes. Thus, the lack of adoption of social media tools on a larger scale (i.e., the multimedia, collaborative and interactive technologies behind social media sites) for educational purposes may be attributed to some academics and educational institutions being unaware of the pedagogic advantages of such technology. Whilst there are many academic studies into the pedagogic advantages of social media, where some institutions and tertiary courses have already utilized social software [6][7], a lack of awareness has also been demonstrated by the blanket bans to social media sites that some schools and Universities have implemented on campus [9][14]. The need for such reflex actions by educational institutions could, however, be allayed by technological tools that help to distinguish between the use of social media for work/educational purposes and leisure. In particular, tools that easily convey the shared information available on social media for educational purposes are an area of potential need. It is noted that it is the underlying technology back-ends powering social media sites that are of interest, rather than the sites themselves e.g., Facebook, YouTube, Wikipedia, etc.

Another potential challenge (or motivator for engagement) to educators and their institutions is the abundance of information available on the Internet and now increasingly social media sites (e.g., Wikipedia) presenting content quality control issues. Students are thus required to employ critical analysis skills to find objective and reliable information [6]; however, a study by Katz and Macklin [15] found that higher education students tended to lack the required ICT literacy (e.g., search and evaluation) skills required to navigate the 'overabundance' of information available. Lee and McLoughlin [6] thus suggest drawing upon the 'wisdom of the crowds' paradigm of

social media technology to collaboratively review, edit and contribute quality content between students, educators, and/or external experts/communities – a potential thus exists for a technology tool to facilitate this collaborative learning process.

## 5.2. Technological tools to enable social media use and participation

The pilot survey results of this paper indicate that the surveyed users are aware of the facilities available within social media, and that sharing multimedia is easy i.e., the technologies are easy to use. However, to minimize the learning time required to engage with the technology, adaptive technological user interfaces could be developed. These would be aimed at specifically encouraging use amongst time-poor educated users, who have a lot to offer the open, collaborative environments of social media.

Further, 'bridging' or 'enabling' software technologies may be necessary to introduce educated users to the adaptation of social media tools, predominantly marketed as leisure activities, for educational purposes. Mazer et al. recently reported that the rapport between tertiary teachers and students can be positively reinforced through social networking when used with caution, as students can negatively view teachers who are engaged with social media as invading their leisure 'space' [16]. Whilst Moodle<sup>19</sup> 2.0 (a popular class management system) supports repository plug-ins to directly connect to social media sites as YouTube, Flickr and Wikipedia, technological tools with social media technology back-ends specifically developed for educational purposes may minimize negative attitudes relating to use of social media purely for leisure purposes.

For example, moving beyond existing in-built blog/wiki interaction on Moodle, an E-learning application could record how students interact with educational multimedia in social contexts (where a class can be considered as a social group). This can be achieved by mapping



traditional in-class student-to-student interactions online so that students can socially interact with multimedia content and other students by temporal tagging (e.g., visually indicate at a specific time within the video) or commenting via e-learning tools. Such a tool has many advantages: for example, if many students tag parts of the media as difficult, the teacher can effectively target the next lesson to explain the difficult material in-depth. Thus, teachers can analyse both the students' individual and collective performances to monitor their or class learning progress. Additionally, the teachers can receive vital feedback about their learning materials and presentation. One such application is the authors' Tag!t [17]. Tag!t has been adapted to run within Moodle, which allows teachers and students within Moodle to interact with each other by tagging and linking additional related educational content temporally. Tag!t demonstrates the advantages of bridging social and educational technologies together. Similar 'bridging' technologies working with other educational tools (such as utilizing virtual world technology e.g., Second Life as virtual classrooms, interactive whiteboards, etc.) could thus be developed to further catalyse the adoption of social media tools for tertiary teaching activities and increased student learning outcomes.

### 5.3. Future Survey Questions

The pilot survey conducted and presented in this paper provided some key insights: that the surveyed tertiary educated users are aware of most social media technologies but are passive, rather than active 'prosumer' users. Thus, potential additional questions that expand the main survey to be conducted in the near future on a wider audience to gain further insights into why users are disengaged with contributing to social media will include:

- If a user has heard of a particular social media technology but not used it – why?
- If a user reads wikis but does not contribute – why?
- If a user reads blogs but does not write a blog – why?
- Would the user employ social media tools for educational purposes? Would the user employ social media technologies in their current form? Why or why not?
- Would the user employ social media tools for work purposes? Would the user employ social media technologies in their current form? Why or why not?
- For each social media technology enquired about, is it too time consuming to learn how to use, to use, or to contribute?
- Would a user be more likely to engage with a social media technology if the user interface adapted to the user's level of interaction (e.g., new vs. experienced user) or type of activity (e.g., view/upload/edit video)?

## 6. Conclusions and future work

The pilot survey results presented in this paper show that the surveyed tertiary educated users are tentatively engaging with and are generally aware of the social media sites and facilities currently available online. However, only 10% of respondents from a higher education background regularly use these social technologies, and their use of social media is predominantly for leisure purposes. This belies the need for the tertiary educated to be contributing and harnessing the shared information available on social media for educational purposes. Ideally, such users would employ the dynamic repository of social interaction data for research analysis, or contribute to social media content as experts. The improvement of social media technologies and the development of 'bridging' or 'enabling' software applications that map social media tools (i.e., technologies behind social media sites) into interactive educational tools can bring about a new application of social media in educational contexts.

Future work that directly builds upon the survey findings of this paper involves extending the pilot study to a more comprehensive survey to a wider audience that investigate potential barriers (technological or otherwise) to users actively participating in social media. The authors will also investigate the development of new 'enabling' software technologies that use social media APIs and extend their social multimedia application 'Tag!t' to further map social media technologies to educational applications.

## 7. Acknowledgements

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